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Nº 10

ELECTRICAL & MECHANICAL DATA
AND
CONTOUR TABLES
OF THE
COMMERCIAL PACIFIC CABLE COMPANY'S
CABLES.

Geo. G. Ward

TK
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Commercial Pacific Cable Company

ELECTRICAL & MECHANICAL DATA

AND

CONTOUR TABLES

OF THE

COMMERCIAL PACIFIC CABLE COMPANY'S CABLES.

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Electrical Data of Cables

showing

Lengths, Speeds, &c.

ELECTRICAL

Section.	Core.	Length of Cable (nauts).	Total C.R. at Sea Temp.	Total I.C. at Sea Temp.	Ratio $\frac{R}{C}$
SAN FRANCISCO–HONOLULU	500/315	2,276·3	5,047	893·5	5·65
HONOLULU–MIDWAY	220/190	1,332·0	6,523	467·2	13·96
MIDWAY–GUAM	600/340	2,606·8	4,759	1,088·6	4·37
GUAM–MANILA	250/200	1,631·6	7,240	582·6	12·43
MANILA–SHANGHAI	200/180	1,264·4	7,255	434·4	16·7
GUAM–BONIN	200/180	899·1	5,004	334·0	14·98

DATA.

K.R.	Estimated Practical Working Speed.					
	Simplex L.P.M.	Duplex L.P.M.				
4·51	140	120				
3·05	185	160				
5·18	120	105				
4·22	145	125				
3·15	180	155				
1·67	300	250				

ELECTRICAL DATA.

Section.	Core.	Length of Cable (nauts).	Total C.R. at Sea Temp.	Total I.C. at Sea Temp.	Ratio $\frac{R}{C}$	K.R.	Estimated Practical Working Speed.				
							Simplex L.P.M.	Duplex L.P.M.			
SAN FRANCISCO–HONOLULU	500/315	2,276·3	5,047	893·5	5·65	4·51	140	120			
HONOLULU–MIDWAY	220/190	1,332·0	6,523	467·2	13·96	3·05	185	160			
MIDWAY–GUAM	600/340	2,606·8	4,759	1,088·6	4·37	5·18	120	105			
GUAM–MANILA	250/200	1,631·6	7,240	582·6	12·43	4·22	145	125			
MANILA–SHANGHAI	200/180	1,264·4	7,255	434·4	16·7	3·15	180	155			
GUAM–BONIN	200/180	899·1	5,004	334·0	14·98	1·67	300	250			

Mechanical Data of Cables

shewing

Weights, Sheathing, &c.

Type.	WEIGHT PER NAUT (Cwts.) (Dry.)													
	2 Outer Services	Tar on 2 Outer Services.	2 Compos.	Wire.	Tar on Wire.	Inter-mediate Service.	Tar on Inter-mediate Service.	Wire.	Tar on Wire.	Core Service.	Stearine Tape.	Brass Tape.	Core.	Total.
A^2	6·467	4·484	16·767	211·469	1·685	...	...	...	6 Wormings 3·152	12·446	2 ·701	2 2·446	2 8·859 5·598	274·074
E^2	4·891	3·533	11·630	140·137	·897	...	...	...	6 Wormings 3·858	6·242	2 ·606	2 2·214	2 6·210 4·620	184·838
G^2	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Land line	...	...	...	...	...	...	...	...	...	...	...	...	...	...
E	4·158	3·451	9·239	114·580	·842	...	...	...	...	4·022	·380	1·263	4·402 2·799	145·136
B	3·804	4·131	5·842	71·658	1·059	...	...	...	...	2·309	·408	1·250	4·402 2·771	97·634
B′	3·533	2·581	5·901	47·568	·339	...	...	...	...	2·052	·386	1·209	4·457 2·784	70·810
D′	2·936	...	1·942	17·963	2·938	...	...	...	...	1·749	...	...	4·460 2·769	34·757

MECHANICAL DATA.

SAN FRANCISCO—HONOLULU SECTION.

Type.	Sheathing.	Core.	Wormings.	Lay of Coree (inches).	Breaking Strain of Cable (cwte.)	Elongn. of Cable %	Core Service.	Outer Service.	Lay of Wire (inches).	Lay of Outer Service (inches).
A^2	16/1 yarn	2 $\frac{500}{315}$ Bt.	2 13/71 4 8/35	14·25	...	...	$\begin{matrix}20\\ \overline{20}\\ \overline{15}\end{matrix}$ 1/180	$\frac{24}{21}$ 3/25	21·0	$\frac{4{\cdot}5}{4{\cdot}0}$
E^2	15/3 yarn	2 $\frac{350}{250}$ Bt.	2 13/71 4 8/35	14·0	...	...	$\frac{24}{18}$ 1/120	$\frac{21}{18}$ 3/25	15·6	$\frac{4{\cdot}4}{4{\cdot}6}$
G^2	$\frac{6/00}{15/3}$	2 $\frac{350}{250}$ Bt.	2 13/71 4 8/35	14·0	...	...	Over 3's $\frac{21}{18}$ 3/25 2 Compos.	...	2·5	...
Land line	30/10 yarn	2 $\frac{500}{315}$ Bt.	2 13/71 4 8/35	14·25	...	...	$\frac{21}{18}$ 1/120	$\frac{21}{21}$ 3/25	17·0	$\frac{3{\cdot}9}{6{\cdot}5}$
E	10/2 yarn	$\frac{500}{315}$ Bt.	...	...	...	...	$\frac{15}{14}$ 1/106	$\frac{20}{18}$ 3/25	13·3	$\frac{4{\cdot}5}{4{\cdot}5}$
B	12/6 yarn	$\frac{500}{315}$ Bt.	...	...	...	...	11 1/180	$\frac{24}{16}$ 3/25	12·0	$\frac{3{\cdot}8}{3{\cdot}9}$
B'	15/9 yarn	$\frac{500}{315}$ Bt.	...	...	...	...	13 1/120	$\frac{17}{16}$ 3/25	11·25	$\frac{3{\cdot}9}{4{\cdot}0}$
D'	$18/14^T$ E.W.T.	$\frac{500}{315}$ Plain	...	...	186·2	9·2	12 1/120	2 Tapes	12·54	...

Type.	Wire Tests.						Diameters.					Weight of Cable per Naut. (Cwte.)		
	Diameter (inches).	Breaking Strain (lbs.)	Elongn. %	Wraps or Twists in 6″.	Breaking Strain per sq. in. (tons)	No. of Samples.	Conductor.	Core.	Served Core.	Over Wire.	Complete Cable.	Air.	Water.	Shipping.
A^2	·2985	4,533	...	11·8	29·7	43	·1801	·4218	1·279	1·932	2·235	288·91	200·71	292·61
E^2	·2519	3,200	20·0	13·7	29·6	20	·1521	·3789	1·235	1·532	1·777	191·85	133·97	197·69
G^2	·3774	4,986	...	13·9	19·9	20	·1521	·3789	(A for G) 1·777	...	2·412	530·44	426·54	531·59
Land line	·1284	874	16·3	21·0	32·1	5	·1801	·4218	1·172	1·422	1·769	Dry weight calculated. 130·80	...	...
E	·2786	3,880	21·1	13·1	29·2	55	·1801	·4218	·815	1·189	1·373	147·74	107·61	150·44
B	·2000	2,299	19·3	14·5	34·0	105	·1801	·4218	·679	·997	1·282	99·67	69·46	102·07
B'	·1464	1,313	18·0	21·2	36·8	76	·1801	·4218	·621	·892	1·091	72·36	48·42	74·59
D'	·0824	1,128	8·2	3 × 3	101·7	1,732	·1801	·4218	·598	·796	·936	36·26	20·69	37·28

Type.	Weight per Naut (Cwte.) (Dry.)													
	2 Outer Services	Tar on 2 Outer Services.	2 Compos.	Wire.	Tar on Wire.	Inter-mediate Service.	Tar on Inter-mediate Service.	Wire.	Tar on Wire.	Core Service.	Stearine Tape.	Brass Tape.	Core.	Total.
A^2	6·467	4·484	16·767	211·469	1·685	...	...	...	6 Wormings 3·152	12·446	2 ·701	2 2·446	2 $\frac{8{\cdot}859}{5{\cdot}598}$	274·074
E^2	4·891	3·533	11·630	140·137	·897	...	...	...	6 Wormings 3·858	6·242	2 ·606	2 2·214	2 $\frac{6{\cdot}210}{4{\cdot}620}$	184·838
G^2	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Land line	...	...	...	...	...	...	...	...	...	...	...	...	...	...
E	4·158	3·451	9·239	114·580	·842	...	...	...	...	4·022	·380	1·263	$\frac{4{\cdot}402}{2{\cdot}799}$	145·136
B	3·804	4·131	5·842	71·658	1·059	...	...	...	...	2·309	·408	1·250	$\frac{4{\cdot}402}{2{\cdot}771}$	97·634
B'	3·533	2·581	5·901	47·568	·339	...	...	...	...	2·052	·386	1·209	$\frac{4{\cdot}457}{2{\cdot}784}$	70·810
D'	2·936	...	1·942	17·963	2·938	...	...	...	...	1·749	...	...	$\frac{4{\cdot}460}{2{\cdot}769}$	34·757

Type.	Weight per Naut (Cwts.) (Dry.)													
	2 Outer Services	Tar on 2 Outer Services.	2 Compos.	Wire.	Tar on Wire.	Inter-mediate Service.	Tar on Inter-mediate Service.	Wire.	Tar on Wire.	Core Service.	Stearine Tape.	Brass Tape.	Core.	Total.
A	9·473	4·866	14·134	1's 185·245	1's 1·228	9·679	6 910	6's 59·045	6's ·169	2·228	·187	·844	2·027 1·732	297·767
E²	6·295	4·473	11·082	146·571	·447	...	...	...	Wormings 1·580	2 9·571	2 ·304	2 1·634	2 4·125 3·384	189·466
G²	...	...	...	...	...	...	...	...	...	...	...	...	...	...
E	7·134	4·152	6·477	113·321	·438	...	...	...	...	4·580	·152	·897	2·031 1·692	140·874
B	3·509	2·973	5·232	57·791	·173	...	...	...	...	2·250	·157	·812	2 018 1·696	76·611
B¹	2·857	3·223	4·835	39·625	·169	...	...	...	...	1·826	·187	·768	2·045 1·710	57·245
D¹	3·844	...	2·970	16·051	1·206	...	...	...	...	1 850	...	...	2·046 1·710	29·677

MECHANICAL DATA.

HONOLULU–MIDWAY SECTION.

Type.	Sheathing.	Core.	Wormings.	Lay of Cores (inches).	Breaking Strain of Cable (cwts.)	Elongn. of Cable %	Core Service.	Outer Service.	Lay of Wire (inches).	Lay of Outer Service (inches).	Wire Tests.						Diameters.					Weight of Cable per Naut. (Cwts.)			Weight per Naut (Cwts.) (Dry.)													
											Diameter (inches).	Breaking Strain (lbs.)	Elongn. %	Wraps or Twists in 6″.	Breaking Strain per sq. in. (tons)	No. of Samples.	Conductor.	Core.	Served Core.	Over Wire.	Complete Cable.	Air.	Water.	Shipping.	2 Outer Services	Tar on 2 Outer Services.	2 Compos.	Wire.	Tar on Wire.	Inter-mediate Service.	Tar on Inter-mediate Service.	Wire.	Tar on Wire.	Core Service.	Stearine Tape.	Brass Tape.	Core.	Total.
A	$\frac{14/1}{10/6}$ yarn	$\frac{220}{190}$ Ct. Bt.	...	...	...	...	Intermediate Service. $\frac{18}{14}$ 1/180	$\frac{30}{30}$ $\frac{4/28}{3/28}$	18·0	$\frac{8\cdot0}{8\cdot0}$	·2992	4,583	...	11·0	29·9	90	·1122	·3215	B/A 1·359	1·804	2·156	299·94	222·75	310·25	9·473	4·866	14·134	1's 185·245	1's 1·228	9·679	6 910	6's 59·045	6's ·169	2·228	·187	·844	$\frac{2\cdot027}{1\cdot732}$	297·767
E^2	15/3 yarn	2 $\frac{220}{190}$ Ct. Bt.	1 4/180	9·0	...	...	$\frac{16}{14}$ 1/180	$\frac{34}{30}$ 1/50	15·75	$\frac{7\cdot0}{7\cdot0}$	·2576	3,302	15·7	13·7	29·18	30	·1122	·3215	1·192	1·588	1·922	199·97	138·64	208·11	6·295	4·473	11·082	146·571	·447	...	...	...	Wormings 1·580	2 9·571	2 ·304	2 1·634	2 $\frac{4\cdot125}{3\cdot384}$	189·466
G^2	$\frac{6/00}{15/3}$ yarn	2 $\frac{220}{190}$ Ct. Bt.	1 4/180	9·0	...	...	$\frac{16}{14}$ 1/180	...	2·7	...	...	...	...	...	...	...	·1122	·3215	E^2 1·922	...	2·546	...	...	Calculated 541·900	...	...	...	...	...	...	...	...	...	...	...	...	...	...
E	10/2 yarn	$\frac{220}{190}$ Ct. Bt.	...	...	...	...	$\frac{12}{8}$ 1/120	$\frac{30}{28}$ 1/75	15·0	$\frac{7\cdot0}{6\cdot5}$	·2797	4,130	16·6	11·7	30·9	30	·1122	·3215	·812	1·250	1·531	143·75	104·72	151·39	7·134	4·152	6·477	113·321	·438	...	...	...	...	4·580	·152	·897	$\frac{2\cdot031}{1\cdot692}$	140·874
B	10/6 yarn	$\frac{220}{190}$ Ct. Bt.	...	...	...	...	9 1/120 3 1/180	$\frac{28}{16}$ 1/50	12·0	$\frac{5\cdot5}{5\cdot5}$	·1985	2,174	15·6	16·3	32·7	53	·1122	·3215	·562	·914	1·156	77·96	55·05	80·12	3·509	2·973	5·232	57·791	·173	...	...	...	...	2·250	·157	·812	$\frac{2\cdot018}{1\cdot696}$	76·611
B^1	12/9 yarn	$\frac{220}{190}$ Ct. Bt.	...	...	...	...	11 1/120	$\frac{26}{24}$ 1/50	12·0	$\frac{5\cdot5}{5\cdot7}$	·1486	1,231	16·5	22·5	33·5	30	·1122	·3215	·543	·802	1·026	58·00	38·97	60·50	2·857	3·223	4·835	39·625	·169	...	...	...	...	1·826	·187	·768	$\frac{2\cdot045}{1\cdot710}$	57·245
D^1	16/14^T E.W.T.	$\frac{220}{190}$ Ct. Plain	...	...	138	2·5	11 1/120	2 Tapes	10·3	...	·0826	1,066	7·4	3 × 3	95·6	2,640	·1122	·3215	·536	·702	·891	31·32	17·6	32·37	3·844	...	2·970	16·051	1·206	...	...	...	...	1·850	...	...	$\frac{2\cdot046}{1\cdot710}$	29·677

Type.	Weight per Naut (Cwts.) (Dry.)													
	2 Outer Services	Tar on 2 Outer Services.	2 Compos.	Wire.	Tar on Wire.	Inter-mediate Service.	Tar on Inter-mediate Service.	Wire.	Tar on Wire.	Core Service.	Stearine Tape.	Brass Tape.	Core.	Total.
A	9·473	4·866	18·281	1's 185·433	1's 1·442	3,598	Tar 2·214 Compos. 4·313	6's 71·067	6's ·384	1·849	·245	1·179	5·384 3·000	312·728
E	5·515	4·032	9·322	115·280	·247	...	...	...	...	4·183	·211	1·134	5·384 3·098	148·406
B	3·875	1·884	7·817	71·322	·227	...	...	...	...	2·125	·312	1·089	5·361 2·965	96·977
D′	4·659	...	2·941	18·070	1·223	...	...	...	...	1·947	...	...	5·444 3·164	37·448
AA^2	5·527	3·027	10·383	1's 188·861	1's 1·313	1·982	·723	72·295	·375	*3·348 †1·594	(2) ·691	(2) 1·661	(2) 3·647 3·264	298·691
E	5·491	2·625	5·794	113·263	·861	...	...	...	...	3·268	·406	·973	1·844 1·612	136·137
B	3·976	1·917	5·649	58·732	·792	...	...	...	...	1·768	·351	·902	1·818 1·628	77·532
D′	3·363	...	1·500	15·384	2·243	...	...	...	...	1·442	...	...	1·826 1·573	27·331

* Core Service. † Wormings.

MECHANICAL DATA.

GUAM—MIDWAY SECTION.

Type.	Sheathing.	Core.	Wormings.	Lay of Cores (inches).	Breaking Strain of Cable (cwts.)	Elongn. of Cable %	Core Service.	Outer Service.	Lay of Wire (inches).	Lay of Outer Service (inches).	Wire Tests.						Diameters.					Weight of Cable per Naut. (Cwts.)			Weight per Naut (Cwts.) (Dry.)													
											Diameter (inches).	Breaking Strain (lbs.)	Elongn. %	Wraps or Twists in 6".	Breaking Strain per sq. in. (tons)	No. of Samples.	Conductor.	Core.	Served Core.	Over Wire.	Complete Cable.	Air.	Water.	Shipping.	2 Outer Services	Tar on 2 Outer Services.	2 Compos.	Wire.	Tar on Wire.	Inter-mediate Service.	Tar on Inter-mediate Service.	Wire.	Tar on Wire.	Core Service.	Stearine Tape.	Brass Tape.	Core.	Total.
A	$\frac{14/1}{12/6}$ yarn	$\frac{600}{340}$ Ct. Bt.	...	...	...	...	Intermediate Over 6's $\frac{30}{28}$ 1/50 2 Compos.	30 4/28 30 3/28	18·0	$\frac{8\cdot0}{7\cdot5}$	·2992	4,583	...	11·0	29·9	90	·1830	·4478	1·257	1·786	2·130	310·00	236·75	318·31	9·473	4·866	18·281	1's 185·433	1's 1·442	3,598	Tar 2·214 Compos. 4·313	6's 71·067	6's ·384	1·849	·245	1·179	$\frac{5\cdot384}{3\cdot000}$	312·728
E	10/2 yarn	$\frac{600}{340}$ Ct. Bt.	...	...	...	...	$\frac{15}{12}$ 1/120	$\frac{30}{28}$ 1/75	15·0	$\frac{7\cdot0}{7\cdot0}$	·2797	4,130	16·6	11·7	30·9	30	·1830	·4478	812	1·250	1·531	153·30	111·63	158·29	5·515	4·032	9·322	115·280	·247	...	...	...	...	4·183	·211	1·134	$\frac{5\cdot384}{3\cdot098}$	148·406
B	12/6 yarn	$\frac{600}{340}$ Ct. Bt.	...	...	...	...	12 1/120	$\frac{30}{28}$ 1/50	13·0	$\frac{5\cdot5}{5\cdot0}$	·1985	2,174	15·6	16 3	32·7	53	·1830	·4478	·656	1·023	1·257	97·93	70·24	100·04	3·875	1·884	7·817	71·322	·227	...	...	...	...	2·125	·312	1·089	$\frac{5\cdot361}{2\cdot965}$	96·977
D′	18/14ᵀ· E.W.T.	$\frac{600}{340}$ Ct.	...	...	166·5	3·4	12 1/120	2 Tapes	11·92	...	·0826	1,066	7·4	3 × 3	95·6	2,640	·1830	·4478	·630	·797	1·002	39·28	22·81	40·47	4·659	...	2·941	18·070	1·223	...	...	...	...	1·947	...	...	$\frac{5\cdot444}{3\cdot164}$	37·448

GUAM—BONIN SECTION.

Type.	Sheathing.	Core.	Wormings.	Lay of Cores (inches).	Breaking Strain of Cable (cwts.)	Elongn. of Cable %	Core Service.	Outer Service.	Lay of Wire (inches).	Lay of Outer Service (inches).	Wire Tests.						Diameters.					Weight of Cable per Naut. (Cwts.)			Weight per Naut (Cwts.) (Dry.)													
											Diameter (inches).	Breaking Strain (lbs.)	Elongn. %	Wraps or Twists in 6".	Breaking Strain per sq. in. (tons)	No. of Samples.	Conductor.	Core.	Served Core.	Over Wire.	Complete Cable.	Air.	Water.	Shipping.	2 Outer Services	Tar on 2 Outer Services.	2 Compos.	Wire.	Tar on Wire.	Inter-mediate Service.	Tar on Inter-mediate Service.	Wire.	Tar on Wire.	Core Service.	Stearine Tape.	Brass Tape.	Core.	Total.
AA²	$\frac{14/1}{18/8}$ yarn	2 $\frac{200}{180}$ Bt.	each 4 1/140 laid up	10·75	...	...	15 1/115	Over 1's $\frac{26}{20}$ 1/57 Over 8's 32 1/35	1's 16·0 8's 15·5	3·5 3·5	·2997 ·1652	4,716 1,613	... 16·2	14·3 20·3	30·7 35·3	1's 40 8's 20	·1152	·3137	·905	1's 1·777	1·958	298·97	235 80	306·90	5·527	3·027	10·383	1's 188·861	1's 1·313	1·982	·723	72·295	·375	*3·348 †1·594	(2) ·691	(2) 1·661	(2) $\frac{3\cdot647}{3\cdot264}$	298·691
E	10/2 yarn	$\frac{200}{180}$ Bt.	...	...	...	...	12 1/85 $\frac{17}{14}$ 1/43	$\frac{30}{26}$ 1/57	14·5"	4·75	·2799	4,004	15·4	14·9	29·9	25	·1152	·3137	·741	1·208	1·440	139·00	103·75	142·20	5·491	2·625	5·794	113·263	·861	...	...	...	...	3·268	·406	·973	$\frac{1\cdot844}{1\cdot612}$	136·137
B	10/6 yarn	$\frac{200}{180}$ Bt.	...	...	...	...	12 1/85	$\frac{26}{24}$ 1/57	11·0	$\frac{3\cdot5}{3\cdot75}$	·1997	2,203	14·6	19·9	32·7	60	·1152	·3137	·542	·882	1·130	78·26	56·09	80·25	3·976	1·917	5·649	58·732	·792	...	...	...	...	1·768	·351	·902	$\frac{1\cdot818}{1\cdot628}$	77·532
D′	15/14ᵀ· E.W.T.	200 180	...	...	145·0	5·15	12 1/85	2 Tapes	10·5	...	·0832	1,094	5·8	3 × 3	96·7	475	·1152	·3137	·501	·668	·842	28·63	16·87	29·71	3·363	...	1·500	15·384	2·243	...	...	...	...	1·442	...	...	$\frac{1\cdot826}{1\cdot573}$	27·331

* Core Service. † Wormings.

Type.	WEIGHT PER NAUT (Cwts.) (Dry.)													
	2 Outer Services	Tar on 2 Outer Services.	2 Compos.	Wire.	Tar on Wire.	Inter-mediate Service.	Tar on Inter-mediate Service.	Wire.	Tar on Wire.	Core Service.	Stearine Tape.	Brass Tape.	Core.	Total.
AA^2	10·187	4·428	17·313	1's 184·741	1's ·688	1·902	Tar 1·035 1Compos 4·715	8's 71·893	8's ·455	*5·170 †1·438	(2) ·348	(2) 1·786	(2) $\frac{4·536}{3·794}$	314·421
A	9·620	5·201	11·701	1's 184·156	1's 1·170	10·000	4·468	6's 59·259	6's ·183	2·353	·183	·848	$\frac{2·277}{1·982}$	293·401
E	6·554	4·589	8·526	113·634	·482	...	...	...	...	5·085	·196	·888	$\frac{2·339}{1·840}$	144·133
B	3·312	2·009	8·278	58·433	·277	...	...	...	...	2·192	·170	·840	$\frac{2·295}{1·901}$	79·710
B′	3·196	2·889	4·943	38·710	·121	...	...	...	...	1·754	·161	·925	$\frac{2·259}{1·847}$	56·805
D′	3·455	...	2·948	16·034	1·242	...	...	...	...	1·662	...	...	$\frac{2·278}{1·863}$	29·482
AA^2	7·609	4·402	13·718	1's 188·247	1's ·939	1·630	2·188	71·991	1·322	*2·808 †1·848	(2) ·435	(2) 1·522	(2) $\frac{3·587}{3·179}$	305·425
E	4·239	4·294	7·309	114·258	·588	...	...	...	...	4·547	·199	·560	$\frac{1·766}{1·658}$	139·418
B	2·989	1·685	6·726	58·646	·294	...	...	...	...	1·775	·203	·779	$\frac{1·794}{1·590}$	76·481
D′	2·219	...	2·150	15·161	1·735	...	...	...	...	1·389	...	...	$\frac{1·794}{1·619}$	26·067

* Core Service. † Wormings.

MECHANICAL DATA.

GUAM–MANILA SECTION.

Type.	Sheathing.	Core.	Wormings.	Lay of Cores (inches).	Breaking Strain of Cable (cwts.)	Elongn. of Cable %	Core Service.	Outer Service.	Lay of Wire (inches).	Lay of Outer Service (inches).
AA^2	$\frac{14/1}{18/8}$ yarn	2 $\frac{250}{200}$ Ct. Bt.	each 4 1/180 laid up	9·0	…	…	Intermediate $\frac{16}{14}$ 1/120	30 4/28 30 3/28	8's 16·0 1's 17·0	8·0 8·0
A	$\frac{14/1}{10/6}$ yarn	$\frac{250}{200}$ Ct. Bt.	…	…	…	…	Intermediate $\frac{18}{14}$ 1/180	30 4/28 30 3/28	18·0	$\frac{8\cdot0}{7\cdot75}$
E	10/2 yarn	$\frac{250}{200}$ Ct. Bt.	…	…	…	…	$\frac{12}{8}$ 1/180	$\frac{30}{28}$ 1/75	14·9	$\frac{6\cdot9}{6\cdot3}$
B	10/6 yarn	$\frac{250}{200}$ Ct. Bt.	…	…	…	…	9/1/120 & 3/1/180	$\frac{28}{26}$ 1/50	12·0	$\frac{5\cdot5}{5\cdot4}$
B′	12/9 yarn	$\frac{250}{200}$ Ct. Bt.	…	…	…	…	11 1/180	$\frac{26}{24}$ 1/50	12·0	$\frac{5\cdot5}{5\cdot8}$
D′	16/14$^{\text{T}}$· E.W.T.	$\frac{250}{200}$ Ct. Plain	…	…	151	4·9	11 1/120	2 Tapes	10·4	…

Type.	Wire Tests.						Diameters.					Weight of Cable per Naut. (Cwts.)		
	Diameter (inches).	Breaking Strain (lbs.)	Elongn. %	Wraps or Twists in 6″.	Breaking Strain per sq. in. (tons)	No. of Samples.	Conductor.	Core.	Served Core.	Over Wire.	Complete Cable.	Air.	Water.	Shipping.
AA^2	·1654 ·2992	1,510 4,583	15·4 …	19·9 11·0	33·1 29 9	30 (8's) 90 (1's)	·1183	·3330	1·034	1·859	2·252	322·35	237·40	329·87
A	·2992	4,583	…	11·0	29·9	90	·1183	·3330	B/A 1·437	1·814	2 156	295·00	222 04	308·39
E	·2798	4,003	17·0	11·5	29·9	90	·1183	·3330	·805	1·256	1·517	151·25	106·80	156·25
B	·1985	2,174	15·6	16·3	32·7	53	·1183	·3330	·565	·912	1·159	81·05	56·3	84·09
B′	·1485	1,243	17·5	21·3	33·9	270	·1183	·3330	·540	·805	1·024	58·09	38·42	60·23
D′	·0826	1,066	7·4	3 x 3	95·6	2,640	·1183	·3330	·536	·701	·891	31·19	17·73	31·91

Type.	Weight per Naut (Cwts.) (Dry.)													
	2 Outer Services	Tar on 2 Outer Services.	2 Compos.	Wire.	Tar on Wire.	Intermediate Service.	Tar on Intermediate Service.	Wire.	Tar on Wire.	Core Service.	Stearine Tape.	Brass Tape.	Core.	Total.
AA^2	10·187	4·428	17·313	1's 184·741	1's ·688	1·902	Tar 1·035 1Compos 4·715	8's 71·893	8's ·455	*5·170 †1·438	(2) ·348	(2) 1·786	(2) $\frac{4\cdot536}{3\cdot794}$	314·421
A	9·620	5·201	11·701	1's 184·156	1's 1·170	10·000	4·468	6's 59·259	6's ·183	2·353	·183	·848	$\frac{2\cdot277}{1\cdot982}$	293·401
E	6·554	4·589	8·526	113·634	·482	…	….	…	…	5·085	·196	·888	$\frac{2\cdot339}{1\cdot840}$	144·133
B	3·312	2·009	8·278	58·433	·277	…	…	…	…	2·192	·170	·840	$\frac{2\cdot295}{1\cdot901}$	79·710
B′	3·196	2·889	4·943	38·710	·121	…	…	…	…	1·754	·161	·925	$\frac{2\cdot259}{1\cdot847}$	56·805
D′	3·455	…	2·948	16·034	1·242	…	…	…	…	1·662	…	…	$\frac{2\cdot278}{1\cdot863}$	29·482

MANILA–SHANGHAI SECTION.

Type.	Sheathing.	Core.	Wormings.	Lay of Cores (inches).	Breaking Strain of Cable (cwts.)	Elongn. of Cable %	Core Service.	Outer Service.	Lay of Wire (inches).	Lay of Outer Service (inches).
AA^3	$\frac{14/1}{18/8}$ yarn	2 $\frac{200}{180}$ Bt.	each 6 1/135 laid up	11·33	…	…	21 1/105	Over 1's $\frac{30}{24}$ 3/25 Over 8's 27 3/18	1's 15·2 8's 13·1	Outer $\frac{4\cdot5}{4\cdot5}$ Intermd. 6·4
E	10/2 yarn	$\frac{200}{180}$ Bt.	…	…	…	…	$\frac{12}{11}$ 1/180	$\frac{20}{18}$ 3/25	13·87	$\frac{3\cdot75}{4\cdot2}$
B	10/6 yarn	$\frac{200}{180}$ Bt.	…	…	…	…	13 1/105	$\frac{19}{17}$ 3/18	10·75	$\frac{3\cdot6}{3\cdot9}$
D′	15/14$^{\text{T}}$· E.W.T.	$\frac{200}{180}$	…	…	147·8	5·6	12 1/105	2 Tapes $2\frac{7}{8}$″ $2\frac{3}{4}$″	10·7	..

Type.	Wire Tests.						Diameters.					Weight of Cable per Naut. (Cwts.)		
	Diameter (inches).	Breaking Strain (lbs.)	Elongn. %	Wraps or Twists in 6″.	Breaking Strain per sq. in. (tons)	No. of Samples.	Conductor.	Core.	Served Core.	Over Wire.	Complete Cable.	Air.	Water.	Shipping.
AA^3	·2995 ·1650	4,484 1,512	… 21·1	12·8 22·3	29·2 33·2	175 (1's) 64 (8's)	·1146	·3113	·907	1's 1·766	2·092	309·73	235·11	315·22
E	·2792	4,043	21·1	13·2	30·3	435	·1146	·3113	·827	1·220	1·435	142·77	104·46	145·38
B	·1996	2,243	21·0	17·7	33·3	1,249	·1146	·3113	·540	·870	1·083	77·89	55·22	79·70
D′	·0827	1,120	8·9	3 x 3	100·2	438	·1146	·3113	·497	·666	·799	27·591	16·023	28·637

Type.	Weight per Naut (Cwts.) (Dry.)													
	2 Outer Services	Tar on 2 Outer Services.	2 Compos.	Wire.	Tar on Wire.	Intermediate Service.	Tar on Intermediate Service.	Wire.	Tar on Wire.	Core Service.	Stearine Tape.	Brass Tape.	Core.	Total.
AA^3	7·609	4·402	13·718	1's 188·247	1's ·939	1·630	2·188	71·991	1·322	*2·808 †1·848	(2) ·435	(2) 1·522	(2) $\frac{3\cdot587}{3\cdot179}$	305·425
E	4·239	4·294	7·309	114·258	·588	…	…	…	…	4·547	·199	·560	$\frac{1\cdot766}{1\cdot658}$	139·418
B	2·989	1·685	6·726	58·646	·294	…	…	…	…	1·775	·203	·779	$\frac{1\cdot794}{1\cdot590}$	76·481
D′	2·219	…	2·150	15·161	1·735	…	…	…	…	1·389	…	…	$\frac{1\cdot794}{1\cdot619}$	26·067

* Core Service. † Wormings.

Contour Tables

shewing

Depth of Water along Line of Cables.

EXPLANATION OF CONTOUR TABLES.

Object of Tables.

These Contour Tables show the depth of water along the line of Cable for the several sections belonging to the Company, enabling anyone to very quickly determine the depth of water in which a repair has to be effected without reference to any chart.

Soundings printed in red, Cable Lengths in black.

The Soundings showing the depths in fathoms are printed in red, while the corresponding lengths of Cable between these Soundings are shown in black.

For example, take the case of the Manila-Shanghai Section, page 29. Here, at a distance of 15 cable nauts seawards from Manila Cable House, the depth of water is 18 fathoms; between this Sounding and the next of 45 fathoms there is a length of 24 nauts of Cable. The next Sounding obtainable is only an approximate one of 150 fathoms at a distance of 12 cable nauts still further seawards along the line of Cable, and so on.

Letters against Soundings.

Where, as is usually the case, no letter is placed against the Sounding, it shows that the Chart Sounding is quite close to the line of Cable, or that all Soundings in the vicinity are approximately the same, so that the one given can be taken as indicating the correct depth.

The letter " *a* " placed against a Sounding indicates that it is an approximate one only, the depth *on* the line of Cable being estimated from Soundings *somewhat in the vicinity.*

The letter " *b* " placed against a Sounding shows the depth given is still more approximate, being estimated from Soundings some considerable distance away from the line of Cable.

The letter " *c* " placed against a Sounding indicates that it is a " no bottom " one, the actual depth being greater than that shown by the Sounding.

The letter " *d* " placed below any two Soundings indicates that they do not probably show the correct contour for points *intermediate* between those two Soundings.

For example, in the case of the Honolulu-Midway Section, there is a length of 43 cable nauts between the Chart Soundings of $1,400_a$ and 1,872 fathoms (at 52-95 cable nauts respectively from Honolulu Cable House) where the letter "*d*" indicates that the depth between the soundings is doubtful.

Soundings for Deep and Shallow Water.

In the case of the *shallow water near shore ends* only one or two of the many Chart Soundings are shown in these tables, but in the case of the *deeper water* all Soundings are, as a rule, shown in order to make the contour as complete as possible.

Wavy Line separating Soundings

Where, in the shallow water, the horizontal line dividing any two Soundings is a wavy one (〰) it indicates that the change of depth from the one Sounding to the other does not take place regularly. Thus, in the case of the Manila-Shanghai Section, page 29, line 8, there is a length of 579·5 nauts of Cable from the Sounding of 50 fathoms to Shanghai Cable House, the wavy line indicating that the change in depth along this line does not take place regularly, varying up and down in places, but always between these limiting values.

Column for "Total Nauts Cable."

The running totals shown in the column headed "Total Nauts Cable" give the total length of cable as measured from the first station of the section, the last total being, of course, the total length of the whole cable.

Spaces in each line.

At the end of each horizontal line one space is left blank for convenience in making alterations or additions due to future repairs.

CONTOUR TABLES.

SECTION.	SOUNDINGS IN FATHOMS. NAUTS OF CABLE.						TOTAL NAUTS CABLE.
SAN FRANCISCO (C.H.)	0	10	34	100	150		
	10	34	100	150	830		
	6	12	12	5	10		45
	830	1600$_a$	2100$_a$	2370$_a$	2529		
	1600$_a$	2100$_a$	2370$_a$	2529	2543		
	32	20	44	53	41		235
	2543	2571	2538	2630	2666		
	2571	2538	2630	2666	2689		
	33	33	42	20	49		412
	2689	2701	2768	2788	2895		
	2701	2768	2788	2895	2772		
	43	20	20	35	29		559
	2772	2793	2700	2685	2520		
	2793	2700	2685	2520	2667		
	34	32	37	26	23		711
	2667	2200$_a$	2600	2600	2590		
	2200$_a$	2600	2600	2590	2908		
	34	46	22	55	32		900
	2908	2430	2547	2597	2481		
	2430	2547	2597	2481	2652		
	30	44	45	35	47		1101
	2652	2682	2684	2759	2724		
	2682	2684	2759	2724	2652		
	41	38	39	50	31		1300
	2652	2652	2685	2517	2821		
	2652	2685	2517	2821	2794		
	38	39	57	46	52		1532

NOTE.—a = approximate, b = very approximate, c = "No bottom" soundings, d = depth between soundings very doubtful.

CONTOUR TABLES.

Section.	Soundings in Fathoms. Nauts of Cable.						Total Nauts Cable.
	2794 2884 40	2884 2904 37	2904 2950 36	2950 2882 32	2882 2893 37		1714
	2893 2941 41	2941 2934 37	2934 2910 40	2910 3000_a 61	3000_a 2994 23		1916
	2994 2810 30	2810 2620 39	2620 2420 56	2420 2470 29	2470 2426 39		2109
	2426 2700_a 41	2700_a 2800_a 16	2800_a 2868 11	2868 2612 18	2612 1951_a 13		2208
	1951_a 2000_b 9	2000_b 1500_b 8	1500_b 454 d 14	454 305 15	305 357 6		2260
HONOLULU … (Kapua C.H.)	357 284 13·5	284 264 2·0	264 0 0·8				2276·3

NOTE.—a = approximate, b = very approximate, c = "No bottom" soundings, d = depth between soundings very doubtful.

SECTION.	$\frac{\text{SOUNDINGS IN FATHOMS.}}{\text{NAUTS OF CABLE.}}$						TOTAL NAUTS CABLE.
HONOLULU ... (Kapua C.H.)	$\frac{0}{50}$ 1	$\frac{50}{238}$ 2	$\frac{238}{293}$ 7	$\frac{293}{206}$ 6	$\frac{206}{1200_a}$ 9		25
	$\frac{1200_a}{1400_a}$ 27	$\frac{1400_a}{1872}$ $\overset{d}{43}$	$\frac{1872}{1936}$ 43	$\frac{1936}{2400_a}$ 14	$\frac{2400_a}{2586}$ 20		172
	$\frac{2586}{2364}$ 19	$\frac{2364}{2704}$ 14	$\frac{2704}{2664}$ 13	$\frac{2664}{2644}$ 10	$\frac{2644}{2704}$ 14		242
	$\frac{2704}{2652}$ 16	$\frac{2652}{2724}$ 14	$\frac{2724}{2572}$ 15	$\frac{2572}{2466}$ 13	$\frac{2466}{2432}$ 13		313
	$\frac{2432}{2453}$ 6	$\frac{2453}{2471}$ 12	$\frac{2471}{2435}$ 12	$\frac{2435}{2574}$ 14	$\frac{2574}{2671}$ 15		372
	$\frac{2671}{2706}$ 13	$\frac{2706}{2726}$ 15	$\frac{2726}{2739}$ 14	$\frac{2739}{2750}$ 15	$\frac{2750}{2740}$ 22		451
	$\frac{2740}{2725}$ 18	$\frac{2725}{2721}$ 19	$\frac{2721}{2760_a}$ 31	$\frac{2760_a}{2730}$ 26	$\frac{2730}{2710}$ 20		565
	$\frac{2710}{2695}$ 23	$\frac{2695}{2748}$ 23	$\frac{2748}{2702}$ 20	$\frac{2702}{2731}$ 22	$\frac{2731}{2706}$ 17		670
	$\frac{2706}{2666}$ 20	$\frac{2666}{2620}$ 9	$\frac{2620}{2555}$ 10	$\frac{2555}{2466}$ 19	$\frac{2466}{2562}$ 12		740

NOTE.—*a* = approximate, *b* = very approximate, *c* = "No bottom" soundings, *d* = depth between soundings very doubtful.

Section.	Soundings in Fathoms. / Nauts of Cable.						Total Nauts Cable.
	$\frac{2562}{2430_a}$ 19	$\frac{2430_a}{2510}$ 20	$\frac{2510}{2504}$ 19	$\frac{2504}{2480_a}$ 32	$\frac{2480_a}{2564}$ 25		**855**
	$\frac{2564}{2535}$ 22	$\frac{2535}{2593}$ 24	$\frac{2593}{2684_a}$ 30	$\frac{2684_a}{2715_a}$ 26	$\frac{2715_a}{2732}$ 15		**972**
	$\frac{2732}{2780_a}$ 24	$\frac{2780_a}{2765}$ 22	$\frac{2765}{2919}$ 22	$\frac{2919}{2873}$ 10	$\frac{2873}{2898}$ 18		**1068**
	$\frac{2898}{2940}$ 32	$\frac{2940}{3035}$ 22	$\frac{3035}{3000_a}$ 7	$\frac{3000_a}{2838}$ 33	$\frac{2838}{2600}$ 20		**1182**
	$\frac{2600}{2679}$ 43	$\frac{2679}{2633}$ 38	$\frac{2633}{2700_a}$ 19	$\frac{2700_a}{2757}$ 9	$\frac{2757}{2539}$ 4		**1295**
	$\frac{2539}{2473}$ 6	$\frac{2473}{1800_a}$ 7	$\frac{1800_a}{741_a}$ 5	$\frac{741_a}{1588}$ 10	$\frac{1588}{1248}$ 1·5		**1324·5**
MIDWAY (office)...	$\frac{1248}{462}$ 2·0	$\frac{462}{60}$ 1·0	$\frac{60}{0}$ 4·5				**1332**

NOTE.—a = approximate, b = very approximate, c = "No bottom" soundings, d = depth between soundings very doubtful.

CONTOUR TABLES.

SECTION.	SOUNDINGS IN FATHOMS. NAUTS OF CABLE.						TOTAL NAUTS CABLE.
MIDWAY (office)...	0 100 5	100 470 2	470 1268 2·5	1268 1595 2	1595 1740 2·5		14
	1740 1624 5	1624 2311 9	2311 2539 14	2539 2462 14	2462 2437 15		71
	2437 2772 20	2772 2895 20	2895 2915 19	2915 2945 16	2945 2956 11		157
	2956 2948 10	2948 2960 11	2960 2967 12	2967 2959 10	2959 2982 13		213
	2982 2982 10	2982 2993 9	2993 3012 11	3012 3048 12	3048 3046 10		265
	3046 3000 10	3000 2961 11	2961 2949 10	2949 3188 12	3188 3003 12		320
	3003 3035 11	3035 3168 16	3168 3100 14	3100 3188 12	3188 3220 12		385
	3220 3230 11	3230 3232 14	3232 3242 12	3242 3240 13	3240 3260 11		446
	3260 3250 12	3250 3246 9	3246 3244 4	3244 3261 6	3261 3276 10		487

NOTE.—*a* = approximate, *b* = very approximate, *c* = "No bottom" soundings, *d* = depth between soundings very doubtful.

SECTION.	SOUNDINGS IN FATHOMS. NAUTS OF CABLE.						TOTAL NAUTS CABLE.
	3276 3259 12	3259 3231 11	3231 3199 10	3199 3269 12	3269 3275 11		**543**
	3275 3245 16	3245 3240_a 19	3240_a 3199 12	3199 3200 10	3200 3225_a 13		**613**
	3225_a 3237 9	3237 3258 24	3258 3198 22	3198 3206 17	3206 3196 25		**710**
	3196 3290_a 16	3290_a 3257 12	3257 3253_a 21	3253_a 3296 13	3296 3313 12		**784**
	3313 3274 13	3274 3291 12	3291 3382 12	3382 3313 12	3313 3254 10		**843**
	3254 3272 11	3272 3242 10	3242 3207 10	3207 3207 11	3207 3176 12		**897**
	3176 3214 9	3214 3285 12	3285 3275 11	3275 3381 11	3381 2992 12		**952**
	2992 3217 10	3217 3248_a 12	3248_a 3200_a 11	3200_a 3200_a 14	3200_a 3248_a 23		**1022**
	3248_a 3237 19	3237 3210 23	3210 3110 31	3110 3061 39	3061 3024_a 35		**1169**

NOTE.—a = approximate, b = very approximate, c = "No bottom" soundings, d = depth between soundings very doubtful.

Section.	$\frac{\text{Soundings in Fathoms.}}{\text{Nauts of Cable.}}$						Total Nauts Cable.
	$\frac{3024_a}{3090_a}$ 29	$\frac{3090_a}{2873_a}$ 34	$\frac{2873_a}{2770}$ 27	$\frac{2770}{1798_a}$ 40	$\frac{1798_a}{2752}$ 14		**1313**
	$\frac{2752}{2782_a}$ 19	$\frac{2782_a}{2540_c}$ 30	$\frac{2540_c}{2820}$ 38	$\frac{2820}{2886_b}$ 33	$\frac{2886_b}{3020}$ 25		**1458**
	$\frac{3020}{3102}$ 13	$\frac{3102}{3121}$ 11	$\frac{3121}{3160}$ 24	$\frac{3160}{3155}$ 20	$\frac{3155}{3159}$ 22		**1548**
	$\frac{3159}{3130_a}$ 21	$\frac{3130_a}{3220_a}$ 24	$\frac{3220_a}{3168}$ 24	$\frac{3168}{3173}$ 21	$\frac{3173}{3144_a}$ 20		**1658**
	$\frac{3144_a}{3188}$ 21	$\frac{3188}{3170_a}$ 24	$\frac{3170_a}{3135}$ 26	$\frac{3135}{3164}$ 21	$\frac{3164}{3140_a}$ 10		**1760**
	$\frac{3140_a}{3120}$ 12	$\frac{3120}{3140}$ 18	$\frac{3140}{3084}$ 9	$\frac{3084}{3080_a}$ 11	$\frac{3080_a}{3065_a}$ 11		**1821**
	$\frac{3065_a}{3047}$ 9	$\frac{3047}{2977}$ 14	$\frac{2977}{3122_a}$ 19	$\frac{3122_a}{3185}$ 22	$\frac{3185}{3206}$ 13		**1898**
	$\frac{3206}{3189}$ 9	$\frac{3189}{3191}$ 12	$\frac{3191}{3193}$ 18	$\frac{3193}{3195}$ 10	$\frac{3195}{3197}$ 11		**1958**
	$\frac{3197}{3195}$ 8	$\frac{3195}{3206}$ 15	$\frac{3206}{3219}$ 9	$\frac{3219}{3200}$ 11	$\frac{3200}{3165}$ 13		**2014**

NOTE.—a = approximate, b = very approximate, c = "No bottom" soundings, d = depth between soundings very doubtful.

CONTOUR TABLES.

SECTION.	SOUNDINGS IN FATHOMS. NAUTS OF CABLE.						TOTAL NAUTS CABLE.
	3165 2930 13	2930 2757 6	2757 2368 5	2368 2656 3	2656 3030$_a$ 11		2052
	3030$_a$ 3252 12	3252 3322 10	3322 3377 11	3377 3273 10	3273 3262 11		2106
	3262 3356 10	3356 3205 21	3205 3190 19	3190 3147 18	3147 3143 44		2218
	3143 3166 25	3166 3178 10	3178 2567 11	2567 2537 9	2537 2414 10		2283
	2414 2578 8	2578 2850$_a$ 7	2850$_a$ 3130$_a$ 8	3130$_a$ 3350$_a$ 11	3350$_a$ 3220$_a$ 9		2326
	3220$_a$ 3360 9	3360 3000$_a$ 9	3000$_a$ 2850$_a$ 14	2850$_a$ 2253 17	2253 2559 9		2384
	2559 3200$_a$ 22	3200$_a$ 2884 16	2884 2568 5	2568 2500$_a$ 21	2500$_a$ 2515 19		2467
	2515 2342 17	2342 2043 26	2043 911 35	911 500$_a$ 22	500$_a$ 824 15		2582
GUAM (office) ...	824 1143 10	1143 1091 9	1091 383$_a$ 2·5	383$_a$ 33 1·0	33 0 2·5		2607

NOTE.—a = approximate, b = very approximate, c = "No bottom" soundings, d = depth between soundings very doubtful.

CONTOUR TABLES.

Section.	Soundings in Fathoms. / Nauts of Cable.						Total Nauts Cable.
GUAM (office) ...	$\frac{0}{24}$ 2	$\frac{24}{421}$ 1·5	$\frac{421}{1411_a}$ 7	$\frac{1411_a}{2009_a}$ 17·5	$\frac{2009_a}{1376_a}$ 17		45
	$\frac{1376_a}{1820_a}$ 6	$\frac{1820_a}{1862_a}$ 12	$\frac{1862_a}{1946_a}$ 18	$\frac{1946_a}{2310_a}$ 15	$\frac{2310_a}{2648}$ 17		113
	$\frac{2648}{1755}$ *d* 28	$\frac{1755}{1850}$ 16	$\frac{1850}{1977}$ 13	$\frac{1977}{2340}$ 12	$\frac{2340}{2514}$ 12		194
	$\frac{2514}{2591}$ 12	$\frac{2591}{2691}$ 16	$\frac{2691}{2710}$ 14	$\frac{2710}{2740}$ 10	$\frac{2740}{2710}$ 10		256
	$\frac{2710}{2726}$ 11	$\frac{2726}{2726}$ 10	$\frac{2726}{2647}$ 11	$\frac{2647}{2231}$ 13	$\frac{2231}{2212}$ 13		314
	$\frac{2212}{3050_a}$ 12	$\frac{3050_a}{2473}$ 20	$\frac{2473}{2793}$ 23	$\frac{2793}{2476_a}$ 9	$\frac{2476_a}{2351}$ 13		391
	$\frac{2351}{2638}$ 7	$\frac{2638}{2953}$ 8	$\frac{2953}{2797}$ 9	$\frac{2797}{2704}$ 10	$\frac{2704}{2762}$ 22		447
	$\frac{2762}{2751}$ 24	$\frac{2751}{2559}$ 21	$\frac{2559}{3000_a}$ 18	$\frac{3000_a}{2830}$ 25	$\frac{2830}{2862}$ 20		555
	$\frac{2862}{2785}$ 21	$\frac{2785}{2731}$ 12	$\frac{2731}{2891}$ 12	$\frac{2891}{2819}$ 10	$\frac{2819}{2679}$ 10		620

Note.—*a* = approximate, *b* = very approximate, *c* = "No bottom" soundings, *d* = depth between soundings very doubtful.

SECTION.	SOUNDINGS IN FATHOMS. NAUTS OF CABLE.						TOTAL NAUTS CABLE.
	$\frac{2679}{2679}$ 10	$\frac{2679}{2462}$ 9	$\frac{2462}{1937}$ 5	$\frac{1937}{1780}$ 6	$\frac{1780}{1560}$ 5		655
	$\frac{1560}{1619}$ 3	$\frac{1619}{2072}$ 9	$\frac{2072}{2487}$ 11	$\frac{2487}{2688}$ 10	$\frac{2688}{2827}$ 14		702
	$\frac{2827}{2950}$ 13	$\frac{2950}{2769}$ 19	$\frac{2769}{3329}$ 19	$\frac{3329}{3253}$ 17	$\frac{3253}{3103}$ 16		786
	$\frac{3103}{2985_a}$ 45	$\frac{2985_a}{2969}$ 25	$\frac{2969}{3132}$ 18	$\frac{3132}{3204}$ 22	$\frac{3204}{3100}$ 36		932
	$\frac{3100}{3188}$ 33	$\frac{3188}{2965_a}$ 26	$\frac{2965_a}{2978_a}$ 32	$\frac{2978_a}{2692_a}$ 30	$\frac{2692_a}{3100_a}$ 28		1081
	$\frac{3100_a}{2720_a}$ 31	$\frac{2720_a}{2589_a}$ 43	$\frac{2589_a}{3035}$ 35	$\frac{3035}{3490}$ 32	$\frac{3490}{2200}$ 16		1238
	$\frac{2200}{1961}$ 16	$\frac{1961}{900}$ 21	$\frac{900}{259}$ 6	$\frac{259}{30}$ 6	$\frac{30}{38}$ 5		1292
	$\frac{38}{44}$ 9	$\frac{44}{86}$ 9	$\frac{86}{56}$ 4	$\frac{56}{117_a}$ 6	$\frac{117_a}{78}$ 7		1327
	$\frac{78}{80}$ 3	$\frac{80}{102}$ 7	$\frac{102}{102}$ 5	$\frac{102}{88}$ 5	$\frac{88}{131}$ 9		1356

NOTE.—*a* = approximate, *b* = very approximate, *c* = "No bottom" soundings, *d* = depth between soundings very doubtful.

CONTOUR TABLES.

Section.	Soundings in Fathoms. Nauts of Cable.						Total Nauts Cable.
	131 521 9	521 281 6	281 395 13	395 450 10	450 454 4		**1398**
	454 598 3	598 709 4	709 560 12	560 719 6	719 930 4		**1427**
	930 943 5	943 927 7	927 425 5	425 338 14	338 273 10		**1468**
	273 109_c $^{d}25$	109_c 160_a 16	160_a 120_a 6	120_a 163_a 8	163_a 100_a 5		**1528**
	100_a 110_c 13	110_c 371 10	371 290 14	290 210 10	210 150_a 5		**1580**
MANILA ... ... (Malate c.H.)	150_a 50 7	50 30 15	30 0 29·5				**1631·5**

Note.—*a* = approximate, *b* = very approximate, *c* = " No bottom " soundings, *d* = depth between soundings very doubtful.

SECTION.	SOUNDINGS IN FATHOMS. NAUTS OF CABLE.					TOTAL NAUTS CABLE.
MANILA ... ... (Malate C.H.)	$\frac{0}{18}$ 15	$\frac{18}{45}$ 24	$\frac{45}{150_a}$ 12	$\frac{150_a}{1470}$ 17	$\frac{1470}{1378}$ 41	109
	$\frac{1378}{1500_a}$ 24	$\frac{1500_a}{1750_a}$ 23	$\frac{1750_a}{2000_a}$ 22	$\frac{2000_a}{2000_b}$ 21	$\frac{2000_b}{2257}$ 26	225
	$\frac{2257}{2200_a}$ 18	$\frac{2200_a}{1655_a}$ 18	$\frac{1655_a}{2164}$ 10	$\frac{2164}{2100}$ 19	$\frac{2100}{1860_a}$ 25	315
	$\frac{1860_a}{2178}$ 17	$\frac{2178}{2300}$ 21	$\frac{2300}{2140_a}$ 25	$\frac{2140_a}{2100}$ 17	$\frac{2100}{1930}$ 23	418
	$\frac{1930}{1650_a}$ 18	$\frac{1650_a}{1787}$ 12	$\frac{1787}{1740}$ 15	$\frac{1740}{1680}$ 14	$\frac{1680}{1820}$ 19	496
	$\frac{1820}{1850}$ 21	$\frac{1850}{1430}$ 29	$\frac{1430}{1100_a}$ 17	$\frac{1100_a}{900}$ 16	$\frac{900}{730}$ 15	594
	$\frac{730}{700}$ 7	$\frac{700}{375}$ 8	$\frac{375}{247}$ 8	$\frac{247}{100}$ 8	$\frac{100}{50}$ 60	685
SHANGHAI ... (Pau Shan C.H.)	$\frac{50}{0}$ 579·5					1264·5

NOTE.—a = approximate, b = very approximate, c = "No bottom" soundings, d = depth between soundings very doubtful.

CONTOUR TABLES.

SECTION.	SOUNDINGS IN FATHOMS. NAUTS OF CABLE.						TOTAL NAUTS CABLE.
GUAM (office) ...	$\frac{0}{66}$ 2·5	$\frac{66}{400}$ 1·5	$\frac{400}{1000}$ 2·5	$\frac{1000}{1327}$ 1·5	$\frac{1327}{1500}$ 3·5		**11·5**
	$\frac{1500}{1250}$ 3·5	$\frac{1250}{1300_b}$ 9	$\frac{1300_b}{2014}$ 3	$\frac{2014}{2100}$ 9	$\frac{2100}{2100}$ 18		**54**
	$\frac{2100}{1950_a}$ 11	$\frac{1950_a}{2150_a}$ 11	$\frac{2150_a}{2250}$ 12	$\frac{2250}{2245}$ 8	$\frac{2245}{1847}$ 8		**104**
	$\frac{1847}{2128}$ 7	$\frac{2128}{2200_a}$ 8	$\frac{2200_a}{1985}$ 4	$\frac{1985}{1959}$ 3	$\frac{1959}{2082}$ 10		**136**
	$\frac{2082}{2273}$ 2·5	$\frac{2273}{1850}$ 13·5	$\frac{1850}{2365}$ 14	$\frac{2365}{2400}$ 14	$\frac{2400}{2447}$ 9		**189**
	$\frac{2447}{2000}$ 18	$\frac{2000}{2298}$ 8	$\frac{2298}{2392}$ 2	$\frac{2392}{2189}$ 10	$\frac{2189}{2271}$ 2		**229**
	$\frac{2271}{2025}$ 10	$\frac{2025}{2314}$ 2·5	$\frac{2314}{2382}$ 9·5	$\frac{2382}{2356}$ 3	$\frac{2356}{2112}$ 10		**264**
	$\frac{2112}{2091}$ 2	$\frac{2091}{2351}$ 9	$\frac{2351}{2451}$ 3	$\frac{2451}{1990}$ 9	$\frac{1990}{2175}$ 2		**289**
	$\frac{2175}{2155}$ 9	$\frac{2155}{2022}$ 4	$\frac{2022}{2451}$ 10	$\frac{2451}{2424}$ 2·5	$\frac{2424}{2400_a}$ 11·5		**326**

NOTE.—a = approximate, b = very approximate, c = "No bottom" soundings, d = depth between soundings very doubtful.

CONTOUR TABLES.

SECTION.	SOUNDINGS IN FATHOMS. NAUTS OF CABLE.						TOTAL NAUTS CABLE.
	2400$_a$ 2200 12	2200 2300 12	2300 2220 9	2220 2133 3	2133 1967 11		**373**
	1967 1964 2	1964 2278 10	2278 2180 3	2180 2146 10	2146 2151 3		**401**
	2151 1863 10	1863 2028 3	2028 2319 12	2319 2002 3	2002 1830$_a$ 7		**436**
	1830$_a$ 1930 5	1930 1987 2·5	1987 2200 7·5	2200 2322 4	2322 2181 3		**458**
	2181 2040 11	2040 1884 3	1884 1588 11	1588 1321 3	1321 1880$_a$ 6		**492**
	1880$_a$ 2209 9	2209 1700$_a$ 16	1700$_a$ 1600 7	1600 1800 8	1800 1620 5		**537**
	1620 1215 9	1215 1053 5	1053 1330$_a$ 6	1330$_a$ 1532 10	1532 1400$_a$ 6		**573**
	1400$_a$ 2023 11	2023 2122 10	2122 2350$_a$ 9	2350$_a$ 2548 10	2548 2582 12		**625**
	2582 2588 11	2588 2322 12	2322 2368 12	2368 2744 11	2744 2673 11		**682**

NOTE.—a = approximate, b = very approximate, c = "No bottom" soundings, d = depth between soundings very doubtful.

CONTOUR TABLES.

SECTION.	SOUNDINGS IN FATHOMS. NAUTS OF CABLE.						TOTAL NAUTS CABLE.
	2673 2400 6·5	2400 2368 4·5	2368 1820_a 5	1820_a 1774 5	1774 1765 8		711
	1765 1900_a 8	1900_a 2095 4	2095 2065 6	2065 2355 6	2355 2482 11		746
	2482 1755 12	1755 1800_a 10	1800_a 1740 13	1740 1602 10	1602 1607 6		797
	1607 1450 5	1450 1553 5	1553 1554 5	1554 1770 5	1770 1900 6		823
	1900 1525 8	1525 1543 12	1543 1438 7	1438 1180 6	1180 1050_a 6		862
	1050_a 998 3	998 862 3	862 571 7	571 396 5	396 426 2		882
BONIN (office) ...	426 316 4	316 102 2	102 85 4	85 63 2	63 0 5		899

NOTE.—a = approximate, b = very approximate, c = "No "bottom" soundings, d = depth between soundings very doubtful.

Section.	Soundings in Fathoms. Nauts of Cable.						Total Nauts Cable.

Note.—*a* = approximate, *b* = very approximate, *c* = "No bottom" soundings
d = depth between soundings very doubtful.

Section.	Soundings in Fathoms. Nauts of Cable.						Total Nauts Cable.

Note.—*a* = approximate, *b* = very approximate, *c* = "No bottom" soundings, *d* = depth between soundings very doubtful.

SECTION.	SOUNDINGS IN FATHOMS. NAUTS OF CABLE.						TOTAL NAUTS CABLE.

NOTE.—*a* = approximate, *b* = very approximate, *c* = "No bottom" soundings
d = depth between soundings very doubtful.

CONTOUR TABLES.

SECTION.	SOUNDINGS IN FATHOMS. NAUTS OF CABLE.						TOTAL NAUTS CABLE.

NOTE.—*a* = approximate, *b* = very approximate, *c* = "No bottom" soundings, *d* = depth between soundings very doubtful.

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